DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 5

Topic :- Neural Control & Coordination

1 **(b)**

Cerebellum is an ovoid part of the brain and is located below the occipital lobes of the cerebrum.

Its surface is formed by numerous patches of grey matter, which deep down into white matter. Intermixing of white and grey matter provides the appearance of tree-like structure, which is known as arbor vitae.

2 **(d)**

A-Brain (encephalon); B-Cranial Nerves; C-Spinal Nerves; D-Spinal cord (myelon)

CNS lies along the main (longitudinal) axis of the body. The CNS consists of two parts, *i.e.,* the upper large brain or encephalon, situated in the head and the low long narrow spinal cord or myelon, located in the neck and trunk

3 **(d)**

The vitreous chamber in eye is filled with a viscous jelly-like vitreous humour containing 99% water, some salt, a little mucoprotein and hyaluronic acid. It is a part between lens and retina. At this periphery, it is condensed to form a vitreous membrane. It is mucoid connective tissue.

4 **(c)**

Olfactory lobe perceives sense of smell.

5 **(c)**

In the CNS, the majority of nerve cell bodies are found in the grey matter. The myelin sheath of CNS axons is formed by oligodendropcytes. The blood-brain barrier isolates central neurons from alterations to plasma composition. The CSF is not an ultrafiltrate of plasma but is secreted by choroid plexus.

6 **(c)**

Tangoreceptors have sense of touch. Meissner's corpuscles are a type of tangoreceptor which are found in dermis of skin of finger tip, lips and nipples. These have sense of touch and gentle pressure.

7 **(b)**

Human eye ball is enveloped by three layers, *i.e.,* sclerotic layer, choroid layer and retinal layer outermost sclerotic layer is white portion of eye which mergas with transparent round window called cornea in center. Middle choroid layer lie close to retina and contain light absorbing pigments. In front it form celeary body, which is hidden by iris. Retinal, the

innermost thin transparent appear purplish due to presence of eye pigment-rhodopsin

8 **(a)**

Hypothalamus is a part of vertebrate brain that is derived from the forebrain and located on the ventral surface below the thalamus and the cerebrum. It works as a control centre of autonomic nervous system, body temperature, sweating, hunger, thirst, sleep, fatigue, sex, love, hate, satisfaction, anger, pleasure, metabolism of carbohydrate, fat and water.

9 **(a)**

The axons transmit nerve impulses away from the cell body to a dendrite or to a neruromuscular junction

10 **(c)**

Grey matter is grey in colour containing cell bodies and it lies outside the white matter

11 **(b)**

The grey matter is composed of nerve cells, nerve fibres and neuroglia, which are non-myelinated, while white matter consists mostly of myelinated axons.

12 **(a)**

Pneumotaxic centre which can moderate the function of the respiratory rhythm centre is present in the **pons** region of the brain. Neural signal from this centre can reduce the duration of inspiration and thereby alter the respiratory rate.

13 **(b)**

Ten pairs of cranial nerves are present in fishes and amphibians. The cranial nerves **hypoglossal** is present in rabbit but absent in frog.

14 **(c)**

Hypothalamus is a control centre of autonomic nervous system. It controls hunger, thirst, sleeping, osmoregulation, thermoregulation, emotions like love, anger, pleasure, etc.

15 **(b)**

Mechanism of Hearing

Sound waves → Tympanic membrane → Vibrations → Ear ossicles (malleus, incus and stapes). The vibrations are passed through the oval window on to the fluid of counter where they generate waves which travel to Scala vestibuli → Reissner's membrane → Scala media → Tectorial membrane is vibrated → Tectorial membrane touches the hair cells organ of corti. As a result, nerve impulses are generated in the afferent neurons.
These impulses are carried by the afferent nerve fibres through the auditory nerve to the auditory nerve to the cortex in the **temporal lobe** of the cerebral hemisphere of the brain where the impulses are analysed and the sound is recognised. Ear also performs the function of balancing (equilibrium)

16 **(a)**

Neuron is the largest body cell. Neuron is the structural and functional unit of nervous system.

17 **(a)**

A nerve cell consists of cell body or perikaryon (containing the nucleus, Nissl's

granule). Dendrites and an axon. These are specialized cells. These cells are the structural and functional unit of nervous system/tissues.

18 **(b)**

A-Dorsal root ganglion, B-White matter, C-Gray matter, D-Efferent pathway, D-Afferent pathway

19 **(d)**

The medulla is also called as the medulla oblongata. The medulla contains centres which control respiration, cardiovascular reflexes and gastric secretions

20 **(c)**

Protective covering of brain is called cranium.

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**B**	**D**	**D**	**C**	**C**	**C**	**B**	**A**	**A**	**C**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**B**	**A**	**B**	**C**	**B**	**A**	**A**	**B**	**D**	**C**